COURSE: BIOLOGICAL SYSTEMS							
DEGREE: BIOMEDICAL ENGINEERING					YEAR: 2020-2021		TERM: 2nd semestre

WEEKLY PROGRAMMING							
WEEK	SESSION	Description	GROUPS		SPECIAL	Indicate	WEEKLY PROGRAMMING FOR THE
			LECTURE	SEMINAR	SESSION (Computer class room, audio-visual class room)	YES/NO If the session needs 2 teachers: maximum 4 sessions	DESCRIPTION	CLASS HOURS	HOMEWORK HOURS Maximum 7H

WEEK	SESSION	Description	LECTURE	SEMINAR	SESSION (Computer class room, audio-visual class room)	Indicate (2 teachers)	DESCRIPTION	CLASS HOURS	HOMEWORK HOURS
Week 1	1	Introduction to the molecular geometry of organic molecules, description of basic functional groups by means of basic molecular modeling tools.	X					1h 40min	6
	2	Molecular Geometry and Functional Groups: Practical exercises		X	Computer Practice			1h 40min	
Week 2	3	Natural Occurring Organic Compounds: lipids, phospholipids and membranes	X					1h 40min	6
	4	Natural Occurring Organic Compounds: Practical Exercises		X	Computer Practice			1h 40min	
Week 3	5	Natural Occurring Organic Compounds: carbohydrates and polysaccharides	X					1h 40min	6
	6	Natural Occurring organic Compounds: Practical Exercises		X	Computer Practice			1h 40min	
Week 4	7	Natural Occurring Organic Compounds: the energy of a molecule	X					1h 40min	6
	8	Natural Occurring organic Compounds: Practical exercises		X	Computer Practice			1h 40min	
Week 5	9	The Structure of Macromolecules: nucleotides as building blocks of DNA, structural analyisis and prediction.	X					1h 40min	6
	10	The Structure of Macromolecules: Practical exercises		X	Computer Practice			1h 40min	
Week 6	11	The Structure of Macromolecules: aminoacids as building blocks of proteins.	X					1h 40min	6
	12	The Structure of Macromolecules: Practical exercises		X	Computer Practice			1h 40min	
Week 7	13	The Structure of Macromolecules: modeling the structure of proteins, ab-initio modeling, homology modeling	X					1h 40min	6
	14	The Structure of Macromolecules: Practical exercises		X	Computer Practice			1h 40min	
Week 8	15	The Structure of Macromolecules: comparison, classification and stability of protein structures	X					1h 40min	6
	16	The Structure of Macromolecules: Practical exercises		X	Computer Practice			1h 40min	
Week 9	17	The structure of Macromolecules: analysis and prediction of molecular interactions.	X					1h 40min	6
	18	The Structure of Macromolecules: Practical exercises		X	Computer Practice			1h 40min	
Week 10	19	The structure of Macromolecules: molecular motions introduction to normal mode analysis	X					1h 40min	6
	20	The Structure of Macromolecules: Practical exercises		X	Computer Practice			1h 40min	
Week 11	21	The structure of Macromolecules: molecular motions, introduction to molecular dynamics	X					1h 40min	6
	22	The Structure of Macromolecules: Practical exercises		X	Computer Practice			1h 40min	
Week 12	23	The structure of Macromolecules: protein-protein interaction, biology at large scale	X					1h 40min	4h 40min
	24	Final Project Exercises		X	Computer Practice			1h 40min	
Week 13	25	Molecular Databases I	X					1h 40min	3
	26	Final Project Exercises		X	Computer Practice			1h 40min	
Week 14	27	Molecular Databases II	X					1h 40min	3
	28	Final Project Exercises		X	Computer Practice			1h 40min	
SUBTOTAL								43h 20min + 82h 40min = 126h	
		The final grade will come from:							
		50% final exam. Minimum required mark: 4					Exam	3	
		50% Continuous Evaluation:							
		3 Homework exercises after finishing main theory bolcs (16.6% each)							
TOTAL								129h	